



State Revolving Fund Loan Programs

Drinking Water, Wastewater, Nonpoint Source

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

CITY OF MOUNT VERNON

LTCP PHASE I: CSO 004 ELIMINATION, MANHOLE REHABILITATION AND PUMP REPLACEMENT IN THE E&S LIFT STATION

SRF WW06 49 65 03

DATE: March 23, 2009

TARGET PROJECT APPROVAL DATE: April 23, 2009

I. INTRODUCTION

The above entity has applied to the Clean Water State Revolving Loan Fund (SRF) for a loan to finance all or part of the wastewater project described in the accompanying Environmental Assessment (EA). As part of facilities planning requirements, an environmental review has been completed which addresses the project's impacts on the natural and human environment. This review is summarized in the attached EA.

II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)

The SRF Clean Water Program has evaluated all pertinent environmental information regarding the proposed project and determined that an Environmental Impact Statement is not necessary. Subject to responses received during the 30-day public comment period, and pursuant to Indiana Code 4-4-11, it is our preliminary finding that the construction and operation of the proposed facilities will result in no significant adverse environmental impact. In the absence of significant comments, the attached EA shall serve as the final environmental document.

III. COMMENTS

All interested parties may comment upon the EA/FNSI. Comments must be received at the address below by the deadline date above. Significant comments may prompt a reevaluation of the preliminary FNSI; if appropriate, a new FNSI will be issued for another 30-day public comment period. A final decision to proceed, or not to proceed, with the proposed project shall be effected by finalizing, or not finalizing, the FNSI as appropriate. Comments regarding this document should be sent within 30 days to:

Max Henschen
Senior Environmental Manager
State Revolving Fund -- IGCN 1275
100 N. Senate Ave.
Indianapolis, IN 46204
317-232-8623

ENVIRONMENTAL ASSESSMENT

I. PROJECT IDENTIFICATION

Project Name and Address:

**LTCP Phase 1: Elimination of Sawmill
CSO 004, Rehabilitation of
Manholes and Replacement of
Pumps at the E&S Lift Station
City of Mount Vernon
520 Main Street
City Hall Annex
Mount Vernon, IN 47620**

SRF Project Number:

WW06 49 65 03

Authorized Representative:

The Honorable John M. Tucker, Mayor

II. PROJECT LOCATION

Mt. Vernon is located in south central Posey County, approximately 20 miles west of Evansville, Indiana. The city's existing service area and 20-year service area are one and the same. The city's project areas consist of the Sawmill combined sewer overflow (CSO) structure 004, a new 36-inch interceptor sewer route along Water Street, the E&S Lift Station and various manhole locations. The Sawmill CSO structure is located in the Mount Vernon USGS topographic quadrangle in Black Township, T7S, R13W, N ½ section 8 and NW ¼ section 9; the new 36-inch interceptor sewer is located in the Mount Vernon USGS topographic quadrangle in Black Township, T7S, R13W, sections 8 and 9; and the E&S Lift Station is located in the Mount Vernon USGS topographic quadrangle in Black Township, T7S, R13W, NW ¼ section 4 (see Figure 1). Manholes are located throughout the city.

III. PROJECT NEED AND PURPOSE

Mount Vernon's collection system consists of both sanitary and combined sewers. The sanitary sewer system comprises both conventional gravity sewers and a low pressure grinder pump system. The collection system has three CSOs: CSO 002 (at the wastewater treatment plant), CSO 003 (at the Mill Creek lift station), and CSO 004 (at the Sawmill outfall structure). The collection system also contains two sanitary sewer overflows (SSOs): SSO 006 (at E&S Housing lift station) and SSO 008 (at the Country Club Estates Lift Station).

Mount Vernon's National Pollutant Discharge Elimination System (NPDES) permit requires both the preparation of a CSO Operational Plan (CSOOP) and the development of a CSO Long-Term Control Plan (LTCP). The city's CSOOP was completed and approved by the Indiana Department of Environmental Management (IDEM) on October 8, 1996. The CSOOP addressed the "nine minimum controls"; these are measures that can reduce CSOs without requiring significant engineering studies or construction and which can be implemented in a short period of time. The CSO LTCP is a

comprehensive long-term control plan that recognizes the site-specific nature of the CSOs and their impacts on the receiving streams.

The city entered into an Agreed Order (AO) with the IDEM on November 10, 2004 after violating certain conditions in the NPDES permit relating to LTCP submittal dates, SSOs at the E&S lift station and the Country Club Estates lift station, and improper wastewater system maintenance.

An amended AO between the city and the IDEM was adopted on September 27, 2006. The amended AO stipulated that by October 30, 2006, the city must submit documentation detailing actions relating to LTCP implementation to address impacts of discharges from CSO 004 on the city's drinking water intake, which is downstream of CSO 004.

The city submitted an LTCP to IDEM on June 3, 2005. It was revised in May, 2007 and was approved on July 13, 2007. The LTCP included a goal of fully treating a 1-year/1-hour design storm, providing primary treatment and disinfecting flows from a 10-year/1-hour design storm and treating flows in excess of the 10-year/1-hour design storm to the extent possible, with facilities designed for lesser flows.

The city proceeded with the implementation of the approved LTCP and then decided that there were different cost-effective methods to address the problems and still meet the goals of the LTCP. Therefore, the city submitted a revised LTCP/Preliminary Engineering Report (PER) dated July, 2008 to IDEM to include additional alternatives. Using a flow model, four treatment alternatives for full treatment of volumes up to the 1-year/1-hour storm and primary treatment with disinfection for volumes between the 10-year/1-hour storm and 1-year/1-hour storm events were evaluated. The alternative that included conveying the 10-year/1-hour volume from the entire combined sewer area to the WWTP for storage and full treatment was selected. IDEM approved the amended LTCP on September 15, 2008.

The city proposes to implement the amended LTCP in two phases. Phase I will eliminate the Sawmill CSO 004 by routing all of the flow from the Sawmill overflow structure to the Mill Creek Lift Station via a new Sawmill Interceptor. Phase II will construct a larger Mill Creek Pump Station and a storage basin at the WWTP, as well as other improvements. Since the city is under an AO to eliminate CSO 004 by December 31, 2009, Phase I will be addressed first.

To eliminate SSO 6 at the E&S, the city will replace the underperforming pumps with much larger pumps.

In 2006, the city inspected 424 manholes. Thirty of those were rated Priority I for immediate repair, which includes replacement of the frame and cover. These manholes will be addressed in this project.

IV. PROJECT DESCRIPTION

The Phase I project includes (see Figure 2):

- A. Installing approximately 3,540 feet of 36-inch reinforced concrete pipe (RCP);
- B. Installing approximately seven manholes;
- C. Providing approximately 11,900 cubic yards of backfill;

- D. Providing approximately 4,700 square yards of concrete pavement;
- E. Providing approximately 13,700 square yards of asphalt pavement;
- F. Modifying the Saw Mill CSO 004 diversion structure;
- G. Modifying the Mill Creek CSO 003 diversion structure;
- H. Replacing the 80 gpm pumps at the E and S Lift Station with two variable frequency drive pumps rated at 220-450 gpm each; and
- I. Rehabilitating approximately 30 manholes.

V. ESTIMATED PROJECT COSTS, AFFORDABILITY AND FUNDING

A. Selected Plan Estimated Cost Summary

<u>Construction Components</u>	<u>Costs</u>
New Interceptor	\$1,358,000
New Pumps for E&S Lift Station	197,000
Priority I Manhole Rehabilitation	<u>90,000</u>
Construction Subtotal	\$1,645,000
	Contingencies <u>164,500</u>
Total Estimated Construction Cost	\$1,809,500
<u>Non-Construction Costs</u>	
Engineering Design	\$ 203,092
Field Exploration Studies	77,720
Project Management & Inspections	235,186
Legal and Administrative Services	<u>54,285</u>
Total Estimated Non-Construction Cost	\$ 570,283
Total Estimated Project Cost	\$ 2,379,783

- B. The city will borrow approximately \$2,379,783 through a 20-year State Revolving Fund Loan Program (SRF) loan at an interest rate to be determined at loan closing. Monthly user rates and charges may need to be analyzed to determine if adjustments are required for loan repayment.

VI. DESCRIPTION OF EVALUATED ALTERNATIVES

A. CSO Reduction Alternatives

Several alternatives were evaluated to eliminate the overflow at the Sawmill CSO 004, either through the reduction of inflow by separating sewers into storm and sanitary lines or through transportation of combined sewage to the wastewater treatment plant (WWTP) for treatment.

1. "No Action" Alternative

This alternative was dismissed, since there would be no wastewater system improvement, thus allowing the CSOs to continue to be activated at the same frequency, magnitude and duration.

2. Complete Sewer Separation

This alternative evaluated (1) converting the existing combined sewers to sanitary sewers and installing new storm sewers or (2) converting the existing combined sewers to storm sewers and installing new sanitary sewers. This alternative was rejected due to high cost.

3. Separation of the Areas Tributary to Sawmill CSO 004

This alternative entailed the conversion of the existing combined sewers to sanitary sewers and the installation of new storm sewers, along with upsizing the 21-inch Water Street interceptor to 24-inches and upgrading the capacity of the Mill Creek Lift Station from 3,000 gallons per minute (gpm) to 6,000 gpm. This alternative was rejected due to high cost.

4. Separation of the Areas Tributary to Sawmill CSO 004 and Mill Creek CSO 003 Alternative

This alternative also entailed the conversion of the existing combined to sanitary sewers and the installation of new storm sewers in both areas along with upgrading the capacity of the Mill Creek Lift Station, but eliminated the need to upsize the Water Street interceptor. The city rejected this alternative due to high cost.

5. Transport and Treat Alternative

This alternative entails rerouting all of the flows up to the 10-year/1-hour design storm from the Sawmill CSO 004 outfall structure to the Mill Creek Lift Station via a new 36-inch diameter interceptor that will be installed parallel to the existing 21-inch interceptor sewer. This was the selected alternative, based on cost.

B. Manhole Rehabilitation Alternatives

1. "No-Action" Alternative

This alternative was not considered, since it would not address the deteriorated manholes' structural integrity.

2. Replacement of Manholes Alternative

This alternative requires the replacement of a manhole when its structural integrity has been compromised, when rehabilitation work would only be a temporary fix, or when it would be cost-effective to replace rather than to rehabilitate the individual manholes. Due to high costs, this alternative was rejected.

3. Rehabilitation of Manholes

This alternative involves the immediate repair of structural defects that include: replacing the manhole frame and cover, resetting the frame and cover, raising to grade, reconstructing the chimney/riser section, sealing the inside of the chimney, replacing the flat-top, sealing the full depth of the manhole, constructing a new benchwall, grouting the chimney joints, and grouting voids or pipe penetrations. **Based on cost, this was the selected alternative.**

C. SSO 006 Elimination Alternatives

The “no-action” alternative was rejected, since it would allow the prohibited SSO 6 to continue. Instead, the E&S lift station pumps will be replaced to handle the incoming flows.

VII. ENVIRONMENTAL IMPACTS OF THE FEASIBLE ALTERNATIVES

A. Direct Impacts of Construction and Operation

Disturbed and Undisturbed Areas: The proposed 36-inch interceptor project will be installed parallel to the existing 21-inch sewer within the previously disturbed Water Street right-of-way. The manhole rehabilitation work and replacement of the pumps at the E&S lift station will be done within the existing structures. Work at the WWTP will occur on land significantly disturbed by previous construction activity.

Structural Resources (Figures 3 to 9): The Posey County Historic Sites and Structures Inventory show that no historic properties will be affected by the proposed projects. Any audible, visual or atmospheric effects will be temporary. The SRF’s finding pursuant to the Section 106 of the National Historic Preservation Act, is: “no historic properties affected.”

Plants and Animals: The proposed projects will not impact state or federal-listed endangered species or their habitat.

Prime Farmland: The proposed projects will not cause a conversion of prime farmland.

Wetlands (Figure 10): The projects will not affect wetlands.

100-Year Floodplain (Figure 10): The proposed projects will not affect the 100-year floodplain.

Surface Waters: The proposed projects will not adversely affect waters of high quality listed in 327 IAC 2-1-2(3), exceptional use streams listed in 327 IAC 2-1-11(b), or Natural, Scenic and Recreational Rivers and Streams listed in 312 IAC 7-(2).

Groundwater: It is anticipated that only normal groundwater measures will be required during construction. If necessary, dewatering will be employed during construction with the flow directed to a sedimentation basin prior to being discharged to surrounding surface waters.

Air Quality: Dust and noise will likely be caused by construction operations during the installation of the proposed facilities.

Open Space and Recreational Opportunities: The proposed project will neither create nor destroy open space and recreational opportunities.

The construction and operation of the proposed project will not affect National Natural Landmarks.

B. Indirect Impacts

The city’s LTCP/PER states: *The City of Mount Vernon, through the authority of the City Council, planning commission or other means, will ensure that future development, as well as*

future collection system or treatment works projects connecting to SRF-funded facilities will not adversely impact wetlands, archaeological/historical/structural resources, or other sensitive environmental resources. The City will require new development and treatment works projects to be constructed within the guidelines of the U.S. Fish and Wildlife Service, IDNR, IDEM, and other environmental review authorities.

C. Comments from Environmental Review Authorities

This document serves as the first notice to the Indiana Department of Natural Resources (IDNR) Environmental Unit, the IDNR Division of Historic Preservation and Archaeology and the U.S. Fish and Wildlife Service.

In correspondence dated December 16, 2008, the Natural Resources Conservation Service stated: The proposed project ... in the City of Mt. Vernon, Posey County, Indiana, as stated in your letter dated December 3, 2008, will not cause a conversion of prime farmland.

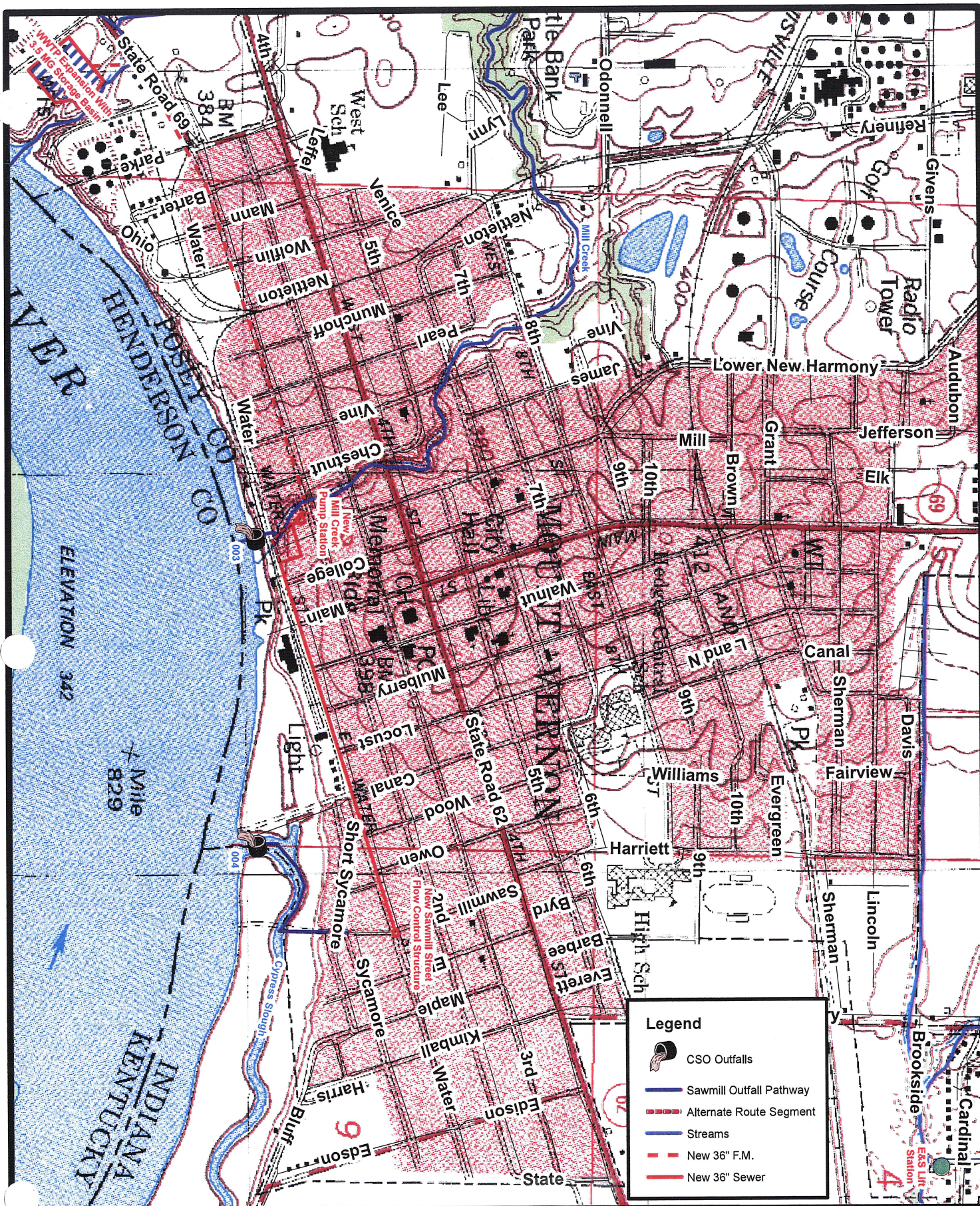
VIII. MITIGATION MEASURES

The city's LTCP/PER lists the following mitigation measures:

- A. Implement appropriate temporary erosion control measures (straw bale barriers, silt fencing, etc.) to prevent soil runoff leaving the construction site.*
- B. Implement all applicable water pollution control measures specified in the Indiana State Highway Standard Specifications (latest version).*
- C. Maintain all equipment to manufactures specifications to minimize construction noise, and where appropriate utilize temporary noise barriers to reduce noise levels.*
- D. Minimize fugitive dust from construction activities by wetting the construction area periodically and constructing wind barriers or treating with chemical stabilizers if necessary.*
- E. Cutback asphalt or asphalt emulsion containing more than seven percent oil distillable shall not be used during the months April through October pursuant to 326 IAC 805 Asphalt Paving Rule.*
- F. The contractor shall abide by the rules governing asbestos notification, handling, disposal and contractor licensing should such material be encountered.*
- G. Construction waste shall be disposed of by the contractor at an acceptable waste disposal landfill. If contaminated soils (including PCB's) are discovered during the project, they may be subject to disposal as either special or hazardous waste as determined by the [IDEM] Office of Solid and Hazardous Waste Management.*

IX. PUBLIC PARTICIPATION

The project was discussed at a public meeting at City Hall at 6:00 PM on July 17, 2008, as part of the Board of Public Works Meeting. In addition, a properly noticed public hearing was held on October 9, 2008 at 4:00 p.m. in City Hall. The following questions (followed by the city's answers) were raised at the public hearing: When does the CSO 004 need to be completed? (December 2009). When will the project begin? (The project is on track with bids going out on February 12, 2009).



Long Term Control Plan
Mt. Vernon, Indiana

0 500 1,000 2,000
Feet

Figure 1
Topographic Map
Mt. Vernon, Indiana

Revised 3/16/2009



**BERNARDIN
LOCHMUELLER &
ASSOCIATES, INC.**
6125 South East Street
Indianapolis, IN 46227
(317) 222-3880



Long Term Control Plan
Mt. Vernon, Indiana

0 550 1,100 2,200
Feet

Figure 2
Alternative 4.0
Mt. Vernon, Indiana

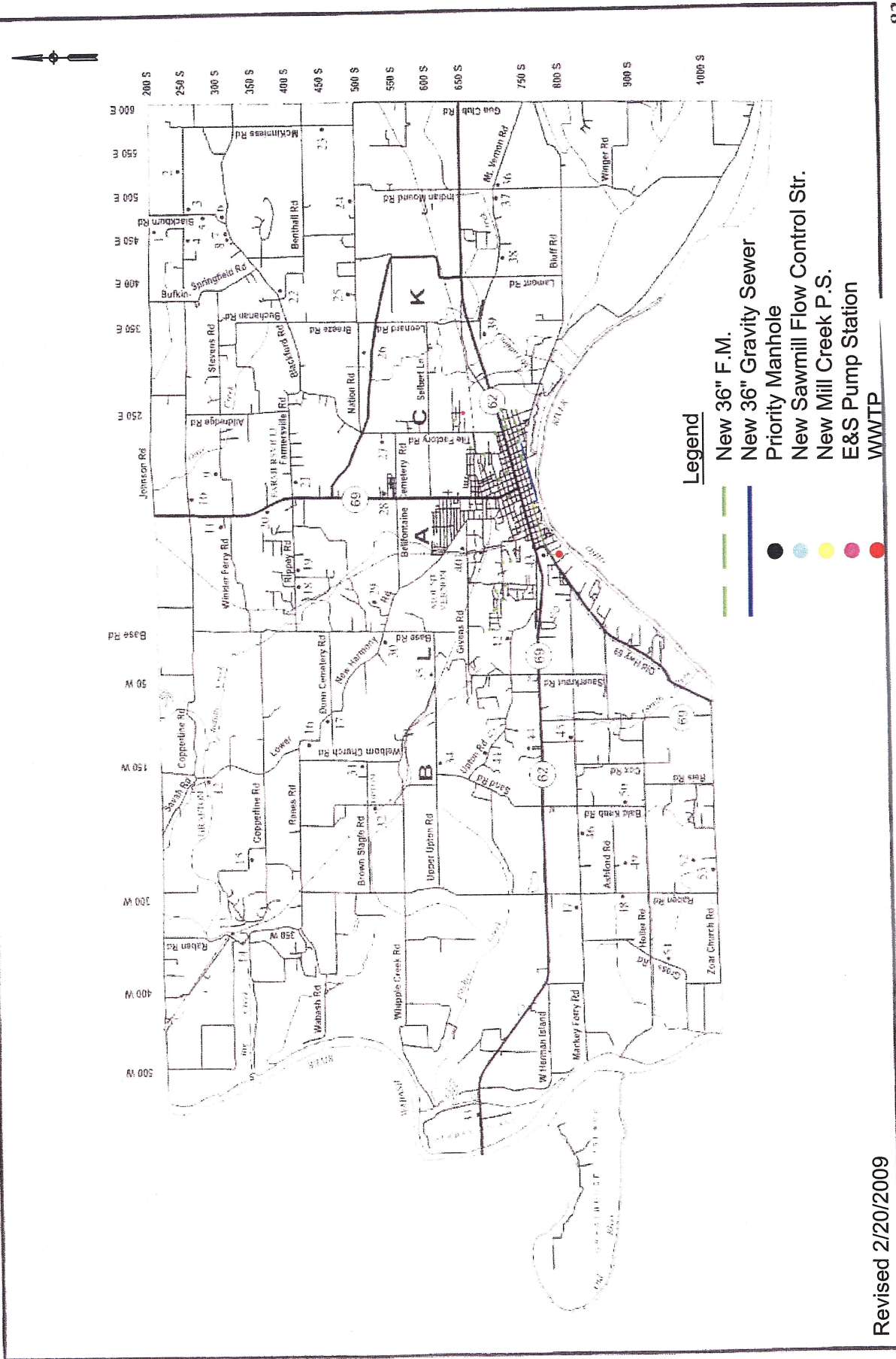
Revised 3/16/2009



**BERNARDIN
LOCHMUELLER &
ASSOCIATES, INC.**
6125 South East Street
Indianapolis, IN 46227
(317) 222-3880

Black Township (35001-053)

S.1

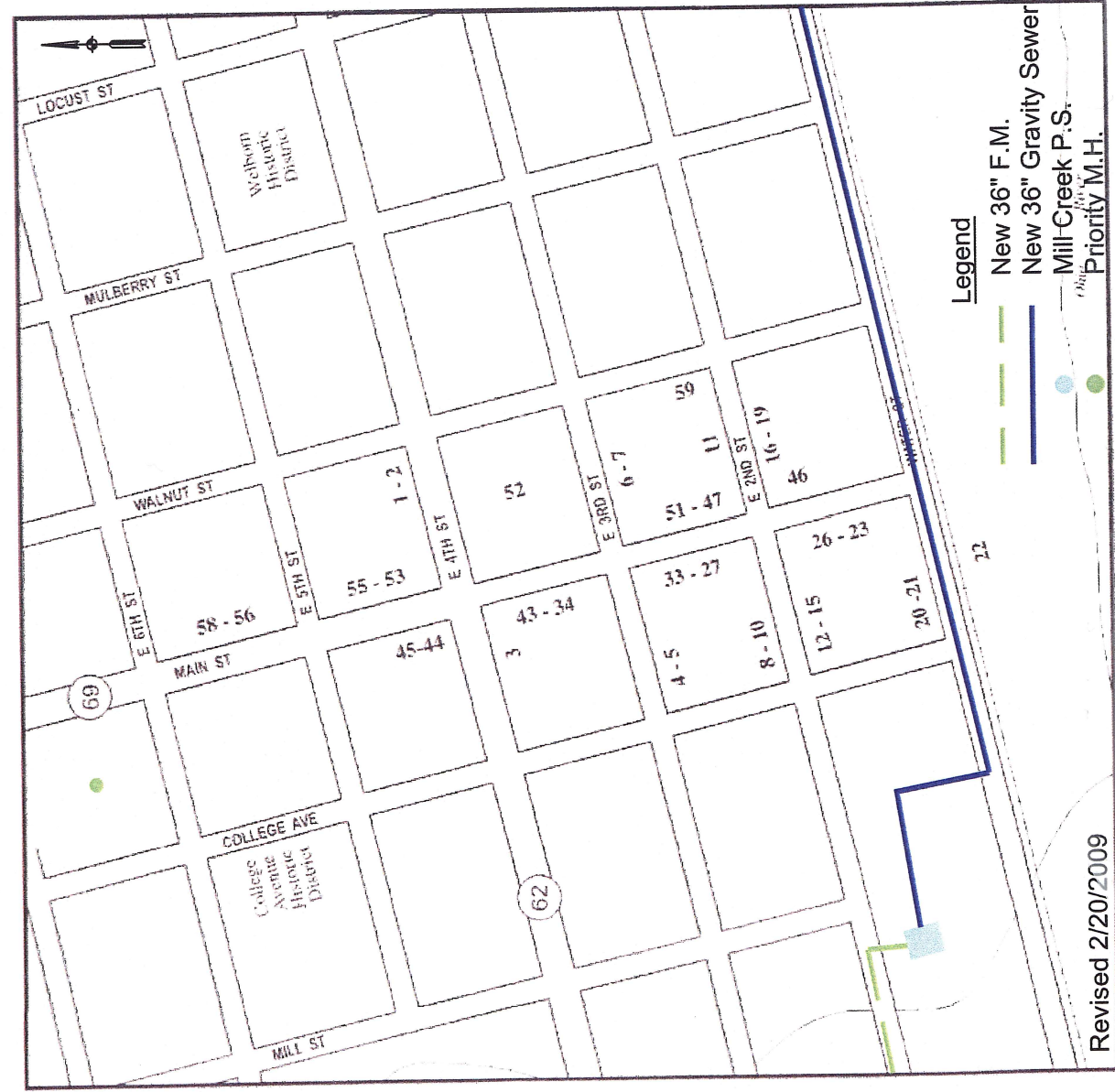


Revised 2/20/2009

Figure 3: Historic Sites
from Posey County Interim Report Sites and Structures Inventory

Downtown Mount Vernon Historic District (36001-059)

5.1



The area that currently encompasses the Downtown Mount Vernon Historic District was once part of a large tract of land owned by William Henry Harrison. Harrison served as Indiana's Territorial Governor for twelve years and later became the hero of the Battle of Tippecanoe. In 1840, Harrison was inaugurated as the 9th President of the United States.

In 1805, North Carolina-born Andrew McFadden arrived from Kentucky and by the following year, built a cabin at the site of the Frederick Hagenmann Farm (35043). Two cousins soon joined Andrew, and the settlement that arose became known as McFadden's Bluff.

In 1816, Aaron Williams platted a public square and thirty-two lots. The settlement's name was changed to Mt. Vernon in honor of George Washington's home. By the next year, fifteen families lived in the immediate area. The settlement's site on the Ohio River ensured growth through river trade. In 1825, the county seat was moved from the centrally-located community of Springfield, in Lynn Township, to Mount Vernon. By that time, Mount Vernon was the most prosperous and populous settlement in Posey County. By 1846, Mount Vernon was large enough to be incorporated as a town, and in 1865, it became a city. The arrival of the railroad in 1871 provided a further boost to the area's commerce and population.

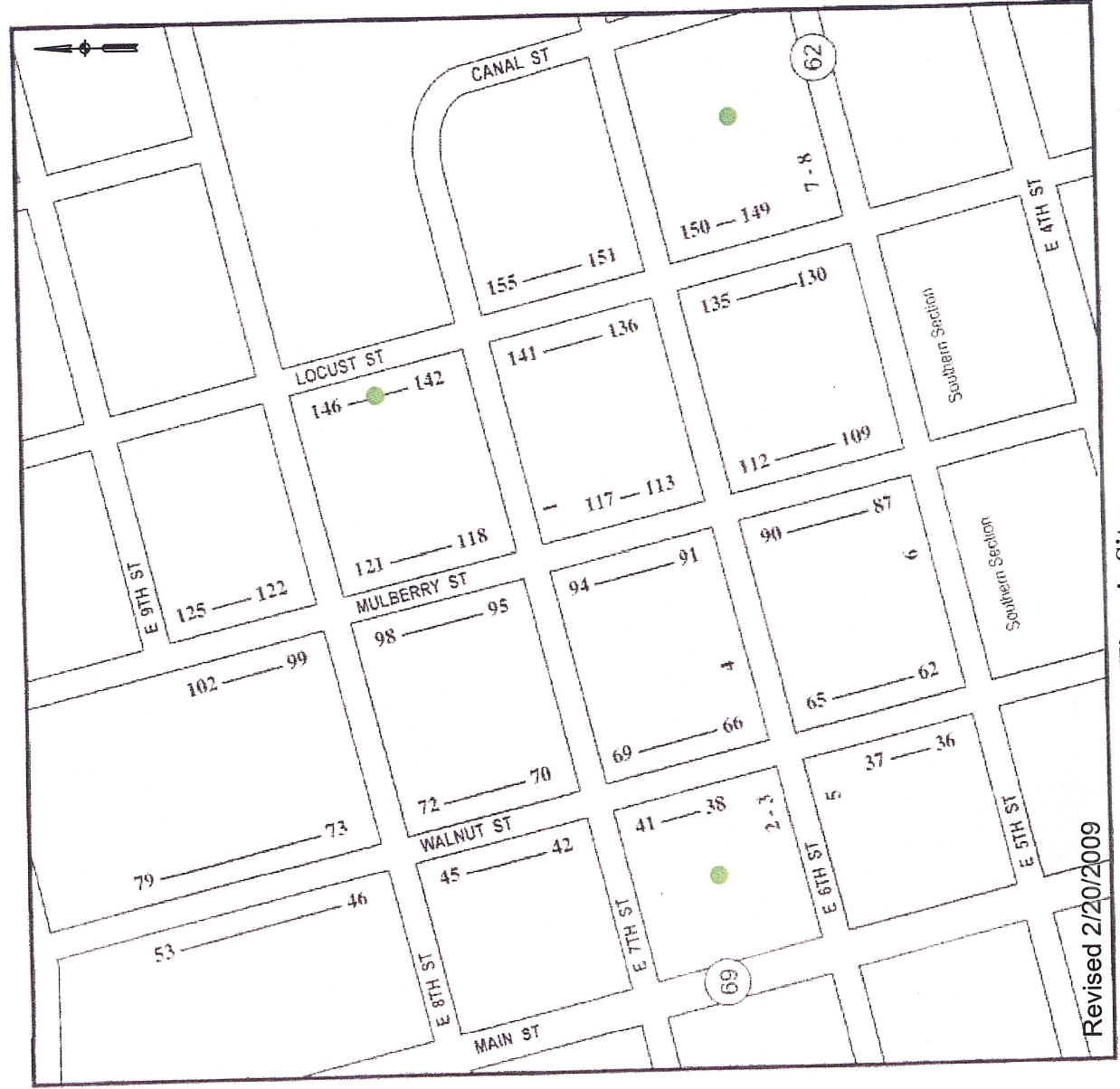
A series of catastrophic fires in 1845, 1872, and 1880 destroyed many early buildings in Mount Vernon's commercial district. Most of the commercial buildings found in the historic district today date from the period 1870-1925. An outstanding example of Italianate-style architecture is the Opera House/Masonic Hall, built c.1885 (36008). Main Street boasts six notable examples of commercial architecture; among these are the Romanesque Revival Simson Brothers Building

Figure 4: Historic Sites from Posey County Interim Report Sites and Structures Inventory

Wellborn Historic District (37001-155) Northern Section

Legend
● Priority Manhole

S. 1



**Figure 5: Historic Sites
from Posey County Interim Report Sites and Structures Inventory**

The Wellborn Historic District comprises an area originally platted by Jesse Wellborn in 1826. Primarily residential, the majority of the district's buildings date from the late-19th through early-20th centuries, and architectural styles and types range from Federal to Minimal Ranch.

Early houses such as the Federal/Greek Revival Pleasant House, built c.1840 (37105), and the Greek Revival/Italianate Phillips-Wellborn House, built c.1847 (37010), show that the neighborhood was a preferred home of Mount Vernon's wealthiest business leaders as early as the 1840s. The Federal-style Sullivan House built for businessman and banker Edward Sullivan from 1847-1851 served him for nine years (37106) until he built a stylish new Italianate house (37015).

Two houses in Mount Vernon are linked to the life of a very prominent man in Indiana history, Alvin P. Hovey. Born in Farmersville in 1821, Hovey became a successful lawyer and was one of the delegates to the convention that drew up the Indiana Constitution of 1851. The same year, Hovey was appointed a circuit court judge. In 1854, he began serving on the Indiana Supreme Court. Following duty in the Civil War, where he rose to the rank of Major General, Hovey was appointed U.S. Minister to Peru, a post he held for five years. In 1880, Hovey was elected to the United States House of Representatives, and he culminated his career by serving as Governor of Indiana from 1889 until his death in 1891. Hovey's residence in the Courthouse Square Historic District was a c.1850 Federal or Greek Revival style house altered c.1915 to the Colonial Revival style fashionable at the time (36002). The house Hovey purchased for his daughter Esther in 1871 is also located in this district (37059). Originally a Greek Revival house built c.1847 by Richard Sullivan, Hovey had the house enlarged and renovated to the popular Italianate style.

Legend

— New 36" Gravity Sewer

● Priority Manhole

Several houses in the district once belonged to members of the Keck family. In 1877, John Keck, the son of German immigrants, purchased a half-interest in the foundry owned by his brother-in-law. By 1883, Keck had controlling interest and founded the Keck-Connerman Company. At the beginning of the 20th century, the Keck-Connerman company was the largest employer in Posey County and manufactured all types of engines, farm machinery, and moveable saw mills. The Louis H. Keck House is an American foursquare that exhibits elements of the Spanish Colonial Revival style (37072). It dates to c.1920. Louis D. Keck once lived in the Greek Revival Ochs House dating from 1846 (37062).

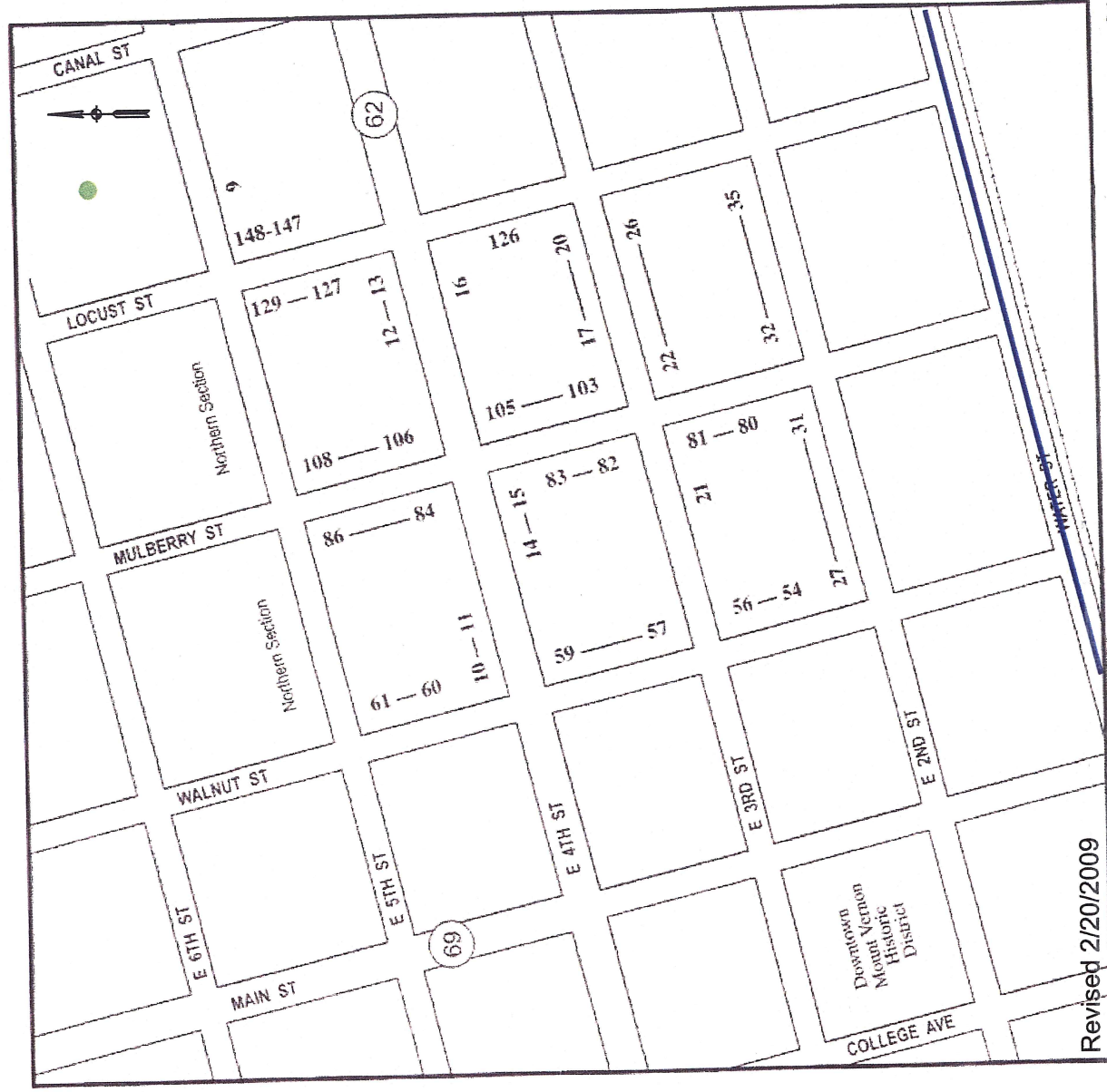
In the early 20th century, the Welborn Historic District remained a popular neighborhood for Mount Vernon's social elite. The Free Classic Forthoffer House was constructed c.1905 and was the home of local businessman John Forthoffer (37012). Another outstanding example from this era is the Queen Anne Sugg House built c.1910 (37092).

A number of churches are located in the district. The earliest is the First Presbyterian Church (37005). Constructed in 1872, the side-steeple church is Gothic Revival in style. St. Matthews Catholic Church is an outstanding example of Romanesque Revival architecture and was built 1879 (37060). The 1881 Trinity Evangelical Church serves a congregation originally founded by German immigrants in 1853. Finally, St. John's Episcopal Church is an 1892 example of the Gothic Revival-style expressed in wood frame construction (37113).

The Welborn Historic District today retains much of its original fabric due to its well-preserved residential architecture and shaded, tree-lined streets. The district has been listed in the National Register of Historic Places since 1992.

Welborn Historic District (37001-155) Southern Section

5.1



Revised 2/20/2009

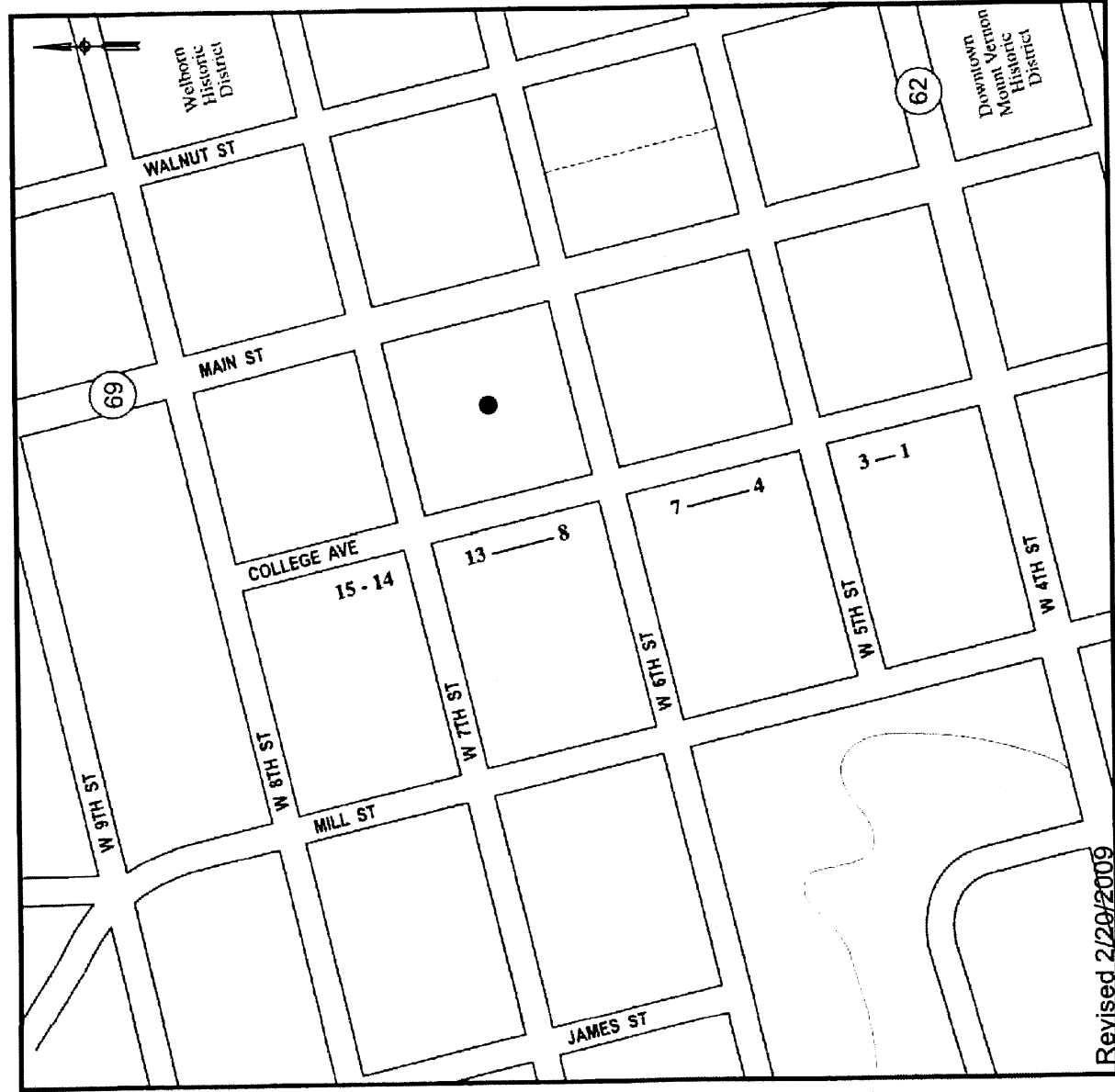
Figure 6: Historic Sites
from Posey County Interim Report Sites and Structures Inventory

College Avenue Historic District (38001-015)

Legend

- Priority Manhole

5.1



The College Avenue Historic District is located on the west side of College Avenue between 4th and 8th Streets. It was not until the 20th century that Mount Vernon's Store Street was renamed College Avenue in commemoration of the Posey County Seminary, which sat two blocks north of College Avenue's northern terminus at 8th Street.

As in the case of the Welborn Historic District, the College Avenue Historic District, in the late-19th and early-20th centuries was a residential area favored by Mount Vernon's entrepreneurs and wealthy merchants. The Italianate Keck House was built c.1885 for John Keck, the co-founder and president of the Keck-Gonnerman Company (38007). His son Frank Keck lived in a c.1905 Free Classic house (38010). A notable-rated Western bungalow was built c.1925 for yet another Keck family member (38014).

A center-gable cottage was built c.1885 for Heinrich Brinkman (38009). Brinkman emigrated to the area from Germany in 1850 and by the 1880s ran a successful brick and tile factory. The house retains its original front porch with ornate square columns, bandsaw-cut scrolls, and decorative brackets. The neighboring L-Plan house was also once owned by a Brinkman (38008).

Two Queen Anne houses in the district received outstanding ratings. The first was built for David Scholey c.1895 (38005). The wood-frame house retains original siding, turned porch posts and spindles, and bracket-and-spindle ornamentation under the gable pediments. The brick Black-Kimball House dates from c.1885 and features a corner turret, original front porch, and stained glass windows with limestone-accented quoins (38006).

The district contains one church; New Life Apostolic Church was built c.1925 as the First Baptist Church and is a rare example of Prairie-style architecture in Posey County (38013).

Figure 7: Historic Sites from Posey County Interim Report Sites and Structures Inventory

Mount Vernon Scattered Sites (39001-137) Map 1

Legend

- New 36" Gravity Sewer
- Priority Manhole
- New Sawmill Flow Control Str.
- E&S Pump Station

S.1



Revised 2/20/2009

Figure 8: Historic Sites
from Posey County Interim Report Sites and Structures Inventory



Long Term Control Plan
Mt. Vernon, Indiana

0 500 1,000 2,000
Feet

Figure 10

**Wetland, Hydrology, & Flood Map
Mt. Vernon, Indiana**



Revised 3/16/2009



**BERNARDIN
LOCHMUELLER &
ASSOCIATES, INC.**

6125 South East Street
Indianapolis, IN 46227
(317) 222-3880